UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

AUG 13 2015

Ms. Becky Victorine
Bureau of Reclamation
2800 Cottage Way, MP-170
Sacramento, California 95825

Subject: Draft Mendota Pool Bypass and Reach 2B Improvements Project Environmental Impact Statement, Fresno and Madera Counties, California (CEQ #20150168)

Dear Ms. Victorine:

The U.S. Environmental Protection Agency has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act, the Council on Environmental Quality Regulations (40 CFR Parts 1500-1508), and our NEPA review authority under Section 309 of the Clean Air Act.

EPA strongly supports the San Joaquin River Restoration Program. While a number of programs exist to improve San Joaquin River water quality, the Restoration Program is the most important effort underway to revive the River fisheries and ecosystem. The Mendota Pool Bypass and Reach 2B Improvements Project represents an essential step in that process.

While EPA supports the goals of the proposed project, we find that additional project-level information is needed regarding a number of key components, in order to fully assess environmental impacts that should be avoided. We recommend that the Final EIS provide further details regarding project design, air quality impacts and mitigation, Clean Water Act section 404 permitting, the impacts of climate change on the proposed project, and potential mitigation measures for addressing environmental justice effects. In addition, we have a number of general recommendations related to the San Joaquin River Restoration Program and methods whereby the Bureau of Reclamation could maximize the potential benefit of this and future Program actions. Based on our review of the DEIS, we have rated the proposed action "*Environmental Concerns – Insufficient Information*" (EC-2) (See the enclosed "Summary of Rating Definitions").

EPA commends the effort and dedication of Reclamation and partner agencies. We appreciate the opportunity to provide input on this critical restoration project, and are available to discuss our recommendations. We look forward to continuing work with you in the future.

When the FEIS is released for public review, please send one hard copy and one CD to the address above (Mail code: ENF4-2). If you have any questions, please contact me at (415) 972-3521 or contact Carter Jessop, the lead reviewer for the project. Carter can be reached at (415) 972-3815 or jessop.carter@epa.gov.

Sincerely,

FOR

Kathleen Martyn Goforth, Manager
Environmental Review Section

Enclosures: Summary of EPA Rating Definitions
EPA's Detailed Comments

SUMMARY OF EPA RATING DEFINITIONS*

This rating system was developed as a means to summarize the U.S. Environmental Protection Agency's (EPA) level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the Environmental Impact Statement (EIS).

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

ADEQUACY OF THE IMPACT STATEMENT

"Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, Policy and Procedures for the Review of Federal Actions Impacting the Environment.

U.S. EPA DETAILED COMMENTS ON THE DRAFT MENDOTA POOL BYPASS AND REACH 2B IMPROVEMENTS PROJECT ENVIRONMENTAL IMPACT STATEMENT, FRESNO AND MADERA COUNTIES, CALIFORNIA, AUGUST 13, 2015

Air Quality

As noted in the DEIS, the project is within the San Joaquin Valley Air Basin, which is classified as extreme nonattainment for ozone, nonattainment for $PM_{2.5}$, and maintenance for PM_{10}, and is subject to the EPA General Conformity Rule. The air quality analysis provided in the DEIS takes a "worst case scenario" approach wherein it is assumed that no borrow materials would be sourced locally and all materials necessary for project construction would be hauled from more than 100 miles away (p. 4-32). Based upon the construction scenario modeled, the DEIS indicates that the project would greatly exceed the *de minimus* thresholds during each year of project construction. The DEIS provides environmental commitments and mitigation measures intended to reduce construction related emissions, and indicates that implementation of these measures would reduce particulate matter, ozone, ozone precursor and NOx emissions to below *de minimus* levels. It states that USBR will require the use of the highest tier equipment available and the purchase of emission offsets through a San Joaquin Valley Air Pollution Control District Verified Emission Reduction Agreement for any remaining emissions above applicable federal, state and local thresholds (page 4-37).

By relying on the worst case scenario to "bookend" potential project impacts, rather than air quality projections based upon the most likely real-world construction scenario, this analysis lacks the specificity typical of project-level NEPA analysis. Accordingly, the DEIS does not include modeling demonstrating the practical effectiveness of the proposed mitigation, nor does it indicate the quantity of emissions offsets that would be required after the application of all other mitigation. Please note that the General Conformity Rule requires that, if modeling indicates that a project will exceed the *de minimus* threshold after all applicable mitigation is implemented, the emissions for that project must be reduced or offset not only to below the *de minimus* threshold, but all the way to zero.

> ***Recommendation***: Include in the FEIS more project-level detail regarding the anticipated real-world project construction emissions. Conduct modeling to demonstrate that the proposed mitigation measures would be fully successful in reducing emissions to below the *de minimus* threshold and other applicable federal, state and local thresholds. We recommend that these data be provided in a tabular format. If applicable, identify the quantity of emissions offset the project would require. If available, include a copy of the draft or final adopted and signed Verified Emissions Reduction Agreement in the FEIS and commit to its implementation in the Record of Decision.
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> In addition to the measures required to meet applicable local, state, and federal requirements, EPA recommends consideration of the following measures to further reduce ozone precursors, NOx, and particulate matter emissions during construction:
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> Mobile and Stationary Source Controls:
> - Minimize use, trips, and unnecessary idling of heavy equipment.
> - Maintain and tune engines per manufacturer's specifications to perform at EPA certification levels, where applicable; or, to perform at verified standards applicable to retrofit technologies.
> - Employ periodic, unscheduled inspections to limit unnecessary idling and to ensure that construction equipment is properly maintained, tuned, and modified consistent with established specifications. The California Air Resources Board has a number of mobile

source anti-idling requirements, which should be employed: (http://www.arb.ca.gov/msprog/truck-idling/truck-idling.htm).

- Prohibit any tampering with engines and require continuing adherence to manufacturer's recommendations.
- In general, commit to the best available emissions control technologies for project equipment:
  - *On-Highway Vehicles* - On-highway vehicles used for project related activities should meet or exceed the US EPA exhaust emissions standards for model year 2010 and newer heavy-duty on-highway compression-ignition engines (e.g., long-haul trucks, refuse haulers, etc.).[1]
  - *Nonroad Vehicles & Equipment* – To the extent practicable, nonroad vehicles & equipment used for project related activities should meet or exceed the US EPA Tier 4 exhaust emissions standards for heavy-duty nonroad compression-ignition engines (e.g., construction equipment, nonroad trucks, etc.).[2]
  - *Low Emission Equipment Exemptions* – The equipment specifications outlined above should be met unless: 1) a piece of specialized equipment is not available for purchase or lease within the United States; or 2) the relevant project contractor has been awarded funds to retrofit existing equipment, or purchase/lease new equipment, but the funds are not yet available.
  - *Advanced Technology Demonstration & Deployment* – demonstrate and deploy heavy-duty technologies that exceed the latest US EPA emission performance standards for the equipment categories that are relevant for the covered activities (e.g., plug-in hybrid-electric vehicles, battery-electric vehicles, fuel cell electric vehicles, etc.).

Administrative controls:

- Prepare an inventory of all equipment prior to construction.
- Develop a construction traffic and parking management plan that minimizes traffic interference and maintains traffic flow.
- Identify where implementation of mitigation measures is rejected based on economic infeasibility.

Climate Change

On December 18, 2014, the Council on Environmental Quality released revised draft guidance for Federal departments and agencies' consideration of the effects of greenhouse gas emissions and climate change in their NEPA reviews. The revised draft guidance supersedes the draft greenhouse gas and climate change guidance released by CEQ in February 2010 that is referenced in the DEIS under Regulatory Framework for the Climate Change chapter (p. 8-11). In accordance with the revised draft guidance, we recommend that agencies consider both the potential effects of a proposed action on climate change, as indicated by its estimated greenhouse gas emissions, and the implications of climate change for the environmental effects of a proposed action. EPA commends the Bureau of Reclamation and the California State Lands Commission for the thoughtful approach to analyzing both of these aspects of the climate change problem for this project. We also note the significant potential GHG emissions reductions that may result from the implementation of proposed air quality mitigation measures.

Although the DEIS provides a discussion of the potential effects of climate change upon conditions important to the project, such as temperature, precipitation and runoff, the document does not indicate

[1] http://www.epa.gov/otaq/standards/heavy-duty/hdci-exhaust.htm
[2] http://www.epa.gov/otaq/standards/nonroad/nonroadci.htm

how these changes may affect specific restoration and water management goals nor overall project success. Such information is important to a complete understanding of the project and its ability to meet the requirements of the Stipulation of Settlement in the long term.

> ***Recommendation***: Update the Regulatory Framework section of the Climate Change chapter to reflect the new CEQ draft guidance released on December 14, 2014 or any more recently published version.
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> Provide a more robust discussion of the anticipated effects of climate change upon overall project goals and objectives. Compare the action alternatives with regard to their vulnerability to such effects and indicate what actions, if any, could be taken to minimize these effects where they are found to represent a risk to any legally mandated goal or stipulation.

San Joaquin River Restoration Program

Numerous potential opportunities exist for USBR to leverage its investment in the San Joaquin River Restoration Program and advance the Program's goals and objectives through interface with watershed, wildlife and conservation programs and initiatives that are underway in the Fresno/Madera County region in the vicinity of Reach 2B. These include USBR's administration of the Central Valley Project Improvement Act, the California Department of Water Resources' Central Valley Flood System Conservation Strategy,[3] the Natural Resources Conservation Service's Flood Easement Program and the Bay Delta Critical Conservation Area (CCA) program,[4] the California Department of Conservation's California Farmland Conservancy Program, and the California Department of Fish and Wildlife's Wildlife Conservation Board acquisition programs. Through partnerships with these agencies and programs, it may be possible to purchase agricultural conservation easements and flood easements from willing sellers, thereby clearing the way for the establishment of a large floodwater detention basin and riparian corridor in the heart of the San Joaquin Valley (modeled after the Yolo Bypass) that would both advance the implementation of the Restoration Program and increase security for flood-prone communities further downstream (northward). Such efforts, combined with a payment for ecosystem services (PES) approach to compensate willing landowners for floodwater retention, groundwater recharge, reforestation, and recovery of salmon populations, might provide options for USBR to address seepage issues by setting-back levees to the greatest extent possible.

> ***Recommendation***: In the FEIS, explain how the proposed project might be integrated or leveraged with other ongoing efforts in the project area to better achieve Program goals. EPA welcomes the opportunity to partner with USBR in developing strategies and methodologies for achieving such integration.
>
> Consider establishing a large floodwater detention basin and riparian corridor within the Program area. Seek technical advice from historical ecologists, hydrogeomorphologists, and restoration ecologists about the ideal placement of levees within the study area to minimize seepage and maximize ecosystem processes. Consider whether existing project alternatives that maximize the floodplain dimensions (such as Alternative D) might serve as a component of such an effort.

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[3] DWR's Central Valley Flood System Conservation Strategy http://www.water.ca.gov/conservationstrategy/cs_new.cfm

[4] NRCS Floodplain Easement Program http://www.nrcs.usda.gov/wps/portal/nrcs/detail/in/programs/?cid=nrcs144p2_031025
NRCS Bay Delta Critical Conservation Area (CCA) program
http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/programs/farmbill/rcpp/?cid=stelprdb1254127

Explore, in the FEIS, the feasibility of employing *payment for ecosystems services* (PES)[5] methods for compensating willing landowners within the project area whose properties might be occasionally affected by seepage or flooding, and who, therefore, would be contributing to flood protection benefits for downstream communities (e.g., Mendota, Firebaugh) and ecosystem restoration benefits for the San Joaquin River. If such integration of economic valuation with ecological restoration is deemed infeasible or outside the scope of this project, explain, in the FEIS, why this is the case and the criteria used to reach this conclusion.

Existing Infrastructure

Reach 2B has been subjected to substantial hydrological and landscape modification. As displayed on Figure 2-4 and discussed in Section 23, numerous wells, pump stations, irrigation reservoirs and utility lines of various types are scattered throughout the project area. The DEIS explains that, during project design, existing wells would be surveyed and determinations would be made about their fate under the proposed project (e.g., abandonment) in accordance with applicable regulations. Similarly, the DEIS indicates that utility structures, such as water pipelines, would be relocated or abandoned, depending on their future use requirements; oil and gas wells, if not possible to avoid, would be destroyed or closed (p. 2-25). The proposed project presents an excellent opportunity for the USBR to remove or upgrade outdated or harmful infrastructure within Reach 2B, and to more appropriately balance the development of natural resources and the protection of ecosystem processes.

***Recommendation*:** Fully utilize this opportunity to decommission as much outdated or harmful infrastructure as possible. In determining whether to maintain, abandon or remove each piece of infrastructure, consider whether the structure was designed with ecosystem protection and fisheries management in mind. List, in the FEIS, each major piece of infrastructure in the project area and indicate whether it would be abandoned, removed, upgraded, or allowed to remain. Consider whether the decommissioning or upgrading of infrastructure on the Sacramento River that was done during the CALFED era (e.g., Red Bluff Diversion Dam, Battle Creek, Hammer Diversion Dam) [6] offers any lessons learned that could be applied to Reach 2B and beyond on the San Joaquin River.

Clean Water Act Section 404

The proposed project would include the fill, fragmentation, isolation, diversion or substantial alteration of jurisdictional waters and wetlands during both the construction and operations/maintenance of the proposed project. EPA recognizes that the proposed project is expected to result in a net increase in the overall extent and function of jurisdictional waters and wetlands within the project area; however, the

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[5] *Floodplain Ecosystem Services Valuation for Carson Valley* (2010)
http://www.cwsd.org/wp-content/uploads/2014/11/Final-Floodplain-Ecosystem-Services-Valuation.pdf
Multi-benefit floodplain conservation through prioritization of agricultural conservation easements (2013)
http://www.esm.ucsb.edu/research/2013Group_Projects/documents/Santa_Clara_Poster.pdf
Sustainable Floodplains through Large-Scale Reconnection to Rivers (2009)
http://www.sciencemag.org/content/326/5959/1487.full
From Storage to Retention: Expanding California's Options for Meeting Its Water Needs (2012)
http://agwaterstewards.org/images/uploads/docs/CRWFS_Storage_to_Retention.pdf

[6] Red Bluff Fish Passage Improvement Project
http://www.usbr.gov/mp/rbfish/index.html
Battle Creek Salmon and Steelhead Restoration Project
https://www.dfg.ca.gov/ERP/erp_proj_battle_ck.asp
Hammer Diversion Dam
http://www.westcoast.fisheries.noaa.gov/stories/2015/03_03032015_hammer_dam.html

DEIS does not include sufficient detail to support a comparison of the impacts across the alternatives. The identification of potential direct and secondary effects is not clear. For each alternative, the DEIS provides an inventory of the maximum total acres of waters of the United States potentially impacted, assuming that all jurisdictional waters within the project area are "potentially impacted" (p. 15-16). In order to assess the relative impacts to waters and wetlands across the project alternatives, a higher-resolution approach is needed to document, for each alternative, the pre- and post-project acreages, types, and functions of jurisdictional features, the quantity and magnitude of temporary or permanent impacts, and the mitigation strategies that would be employed.

In addition, EPA understands that BOR intends to seek an Individual Permit from the Sacramento Corps District under Clean Water Act §404. Under §404, the Corps can only permit the Least Environmentally Damaging Practicable Alternative (LEDPA). The DEIS does not discuss the steps necessary to initiate or complete this permitting process; however, it does explain that the implementation of Conservation Measures WUS-1 and WUS-2 would reduce potentially significant impacts to wetlands to below the threshold of significance. These conservation measures closely resemble the basic requirements of CWA §404 (e.g., commitments to delineate, avoid, and minimize potential impacts to jurisdictional waters).

Recommendation:

Work with the Sacramento Corps District to characterize jurisdictional features that would be directly or indirectly impacted by the proposed project under each alternative. Provide, in the FEIS, updated and high-resolution information about the acreages, types, and functions of jurisdictional features that the project would impact. Using this more rigorous information, identify the LEDPA and design a mitigation strategy for compensating for project impacts within the vicinity of Reach 2B. The FEIS should also include a brief overview of the permitting process for the proposed project under CWA and ESA. Given that this is a unique project attempting to undo many decades worth of environmental damage, consider any factors that may necessitate a unique pathway through the regulatory process. Include, in the FEIS, a draft alternatives analysis that meets the requirements of the CWA Section 404(b)(1) Guidelines as a basis for selecting the LEDPA.

Subsidence of the San Joaquin Valley Floor

The USBR addresses the matter of land subsidence in Sections 11, 13 and 14 of the DEIS. Although the history of land subsidence is acknowledged in these Sections, the cited data all date from 2008 or earlier. The ongoing historic drought in California has resulted in a rapid acceleration in the rates of land subsidence in the San Joaquin Valley; therefore, more current data are needed to accurately document baseline conditions and better describe how land subsidence may affect the project and its restoration goals.

Recommendation:

Include, in the FEIS, more recent data documenting land subsidence in the project vicinity, and discuss what the current trends mean for conditions in the project area. Explain whether or not groundwater depletion and the acceleration of ground subsidence of the San Joaquin Valley floor will create new obstacles for the success of the Restoration Program, and what, if anything, USBR can or will do to stabilize or reverse the damage from this subsidence.

Environmental Justice

The two-county region in which the proposed project would be constructed contains an overall minority population of 66.5%, as well as 37% more people living in poverty, compared to the State average. The DEIS states that the project could result in disproportionately high and adverse effects on minority and low income populations as a result of the removal of land from agricultural production and the exposure

of sensitive receptors to construction-related air pollutant emissions. While these potential impacts are described, no mitigation measures to work with the minority and low-income communities to offset these effects are disclosed.

Recommendation:

Identify, in the FEIS, mitigation measures that could reduce and offset potential adverse effects on surrounding minority and low-income populations. For example, consider implementing a local job training and hiring program to further offset job loss associated with the removal of agricultural lands from production. Other measures could include notification of the local community regarding the scheduling of construction activities, and actions they might take to avoid exposure to construction related air emissions.